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REMARKS

Claims 1-21 are pending in this application. Claims 1-21 are rejected. No new matter has been added. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 1-21 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Doty (U.S. Patent 5,929,639). Applicants respectfully traverse this rejection.

Doty describes an RF coil, and more particularly, an x-quadrupolar coil 230 formed from a series of figure-8 coils 231, 232 to produce a magnetic field that is quadrupolar when viewed along the x axis. Alternatively, a parallel pair of figure-8 coils may be used (column 6, lines 8-11). The optimum subtended angle in the four Golay loops is typically 130-140 degrees for the x-quadrupolar coil. Optimum overall length is typically about 5% to 40% greater than the window height h of the aligned observe coil 210, depending largely on the type and dimensions of the aligned observe coil. Optimum axial spacing between central arcs 233, 234 is typically half the coil radius (column 6, lines 11-18).

Claim 1, as amended, recites a coil arrangement for a medical imaging system comprising "a plurality of adjacent coil elements for a medical imaging system wherein at least one of the plurality of coil elements is between other ones of the plurality of coil elements and each of the plurality of coil elements is about the same size" and "a plurality of cross-over portions interconnecting each of the plurality of coil elements, and wherein a cross-over portion is provided generally centered between each of the plurality of coil elements." Doty fails to describe or suggest such a coil arrangement.

The coil arrangement of Doty illustrated in Figure 3a (used by the Office in its rejection) includes a plurality of coil elements where one coil element is between the others. However, the middle coil element is substantially larger than the outer two coil elements. In contrast, the coil arrangement of claim 1 now recites that the each of the plurality of coil elements is about the same size. Doty does not describe or suggest such a coil arrangement where one coil element is between and interconnected with other coil elements by centered cross-over portions and all the coil elements are about the same size. Moreover, none of the embodiments of Doty describe or suggest this same

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sized configuration. Thus, Doty does not describe or suggest a coil arrangement as recited in claim 1.

Claims 2-11 depend from independent claim 1. When the recitations of claims 2-11 are considered in combination with the recitations of claim 1, Applicants submit that dependent claims 2-11 are likewise patentable over Doty for at least the same reasons set forth above.

Claim 12, as amended, recites a coil array for a medical imaging system comprising "a first coil array portion having a plurality of coil elements for a medical imaging system" and "a second coil array portion having a multi-lobe saddle train with at least one lobe between two other lobes, the multi-lobe saddle train comprising a plurality of cross-over portions and wherein a cross-over portion is provided between each adjacent lobe of the multi-lobe saddle train, each of the cross-over portions located a distance from each of an edge of adjacent lobes." Doty fails to describe or suggest such a coil array.

The coil arrangement of Doty provides a series of figure-8 coils with each series interconnected by a straight coil section as shown in Figure 3a. Thus, the coil arrangement of Doty provides a combination of figure-8 coils having a cross-over portion between elements of each figure-8 coil such that the cross-over portion is *along one edge* of a coil element of one figure-8 coil connected to the adjacent figure-8 coil. This cross-over portion is formed at the edge of the coil element. Accordingly, while some of the cross-over portions are between coil elements, some are not. The coil array of claim 12 recites wherein *each* of the cross-over portions is *located a distance* from each of an edge of adjacent lobes. The interconnected figure-8 coils of Doty include at least one cross-over portion at an edge of one of the coil elements. Doty fails to describe or suggest any such symmetry and in fact teaches away from such an arrangement. The coil array of Doty is configured in a curved arrangement wherein figure-8 coils must be provided on opposite sides of an array with the straight coil portion connecting the two figure-8 coils. Accordingly, Doty does not describe or suggest a coil array as recited in claim 12.

Claims 13-19 depend from independent claim 12. When the recitations of claims 13-19 are considered in combination with the recitations of claim 12, Applicants submit that dependent claims 13-19 are likewise patentable over Doty for at least the same reasons set forth above.

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Claim 20, as amended, recites a method for providing coil arrays for a medical imaging system comprising "providing a cross-over portion generally centered between each of three contiguous coil elements of the plurality of coil elements with the three contiguous coil elements being about the same size." Doty fails to describe or suggest such a method.

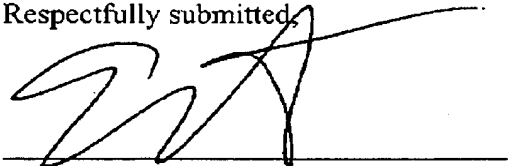
In contrast to claim 20, as amended, and as described in more detail with respect to claim 1 above, the coil elements of Doty are not the same size. Accordingly, Doty fails to describe or suggest the method recited in claim 20.

Claim 21 depends from independent claim 20. When the recitations of claim 21 are considered in combination with the recitations of claim 20, Applicants submit that dependent claim 21 is likewise patentable over Doty for at least the same reasons set forth above.

Thus, for at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claims 1-21 be withdrawn.

In view of the foregoing amendments and remarks, it is respectfully submitted that the prior art fails to teach or suggest the claimed invention and all of the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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